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ABSTRACT

In order to correct the existing breach between the educational researcher and the educator, it is advocated that Action Research replace the "common sense" approach used by most educators. The history of Action Research is traced and a comparison between formal educational research, Action Research, and the "common sense" approach is made. Reasons for the use of the "common sense" method by educators are described. The steps necessary to conduct Action Research are outlined, and the common errors made in using such research are listed. (Author/MLP)

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BRIDGING THE GAP WITH ACTION RESEARCH

by

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BRIDGING THE GAP WITH ACTION RESEARCH

Educating the young of our society has been an accepted principle since public schools came into being. How this should be achieved has been and still is a debatable question. Teacher training institutions have continued to indoctrinate future teachers with methods courses that are in some instances based more upon conventional wisdom than the findings of empirical research. As a result, the teaching process has been, up to this time, one part scientific and many parts art. Yet, the libraries of universities are cluttered with research that supposedly was conducted to improve the education of our young and lift the task of teaching to a professional and scientific level.

To say that there is a great breach between the educational researcher and the classroom teacher is an understatement. The researcher is usually interested in finding answers to specific problems that can be generalized to large populations. Once he has achieved his goal, he usually isn't concerned with the practical aspects of application. The assumption is often made that the classroom teacher will put the new truth into practice. Unfortunately the fact remains, according to Gephart in his book Educational Research, that there is a 20 to 50 year time lag in incorporating new techniques that have been documented (6, p.1). How long can society allow the educational community this abortive luxury?

It would be unfair to imply that educators in our public schools ignore all research findings. Stephen M. Corey reports in his book, Action Research to Improve School Practices, that to consider the effects of traditional research it is helpful to categorize research-established generalizations into two broad areas. The first area would encompass

those generalizations that have implications for textbook writing, instructional materials, school-building construction, and school apparatus and equipment. The second area encompasses those findings that have implications for teacher-pupil relations and teaching methods (4, p.10-11).

Research results in the former seem to affect practices much faster than those in the latter. This may be the result of the fact that research in the first category tends to restrict the field of choice in textbooks, etc. Thus there isn't any alternative but to modify practice in accordance with the implications of research data. However, the problem is quite different for research having implications for improving classroom instruction. In this area undoubtedly some research is read by a comparatively limited percentage of classroom teachers (practitioners). Unfortunately the predominant evidence suggests that reading research is not necessarily followed by change in practice. An example of this is the accumulated knowledge concerning readiness for beginning reading. This area was initially investigated around 1925. Research results suggested and have since been replicated many times that not all children upon entry into first grade are ready to undertake a formal reading program. Yet, one can find a large percentage of classrooms where all first graders are placed into a formal reading program whether they are ready or not. This does not mean that no practical consequences resulted from these studies concerning readiness, but measured against the assumption that reading research will bring about change, the consequences are somewhat insignificant.

It is doubtful that the educational researchers or practitioners suffer much from the breach that exists between knowledge and application. The helpless victims are the children of our society. It is a rare occasion when educational decisions concerning classroom organization and practices are

based upon the findings of research. All too frequently so-called innovative practices are initiated within the classroom or school without first consulting the research dealing with that practice or initiating a pilot study designed to provide a scientific means of evaluating the results. Consequently, thousands of children throughout America are used as human guinea-pigs, and their personalities and education are in many cases jeopardised.

The causes for the disastrous condition which exists in our present educational system seems to be the result of ignorance and inflexibility on the part of both the practitioner and the university educational researcher. Walter Borg states in his book, Educational Research--An Introduction.

> "Teachers often resist the findings of conventional research because these findings, to a degree, constitute a threat to the teacher. As a result of this threat, they resist change and this resistance is a contributing factor in the lag between research knowledge and field application."

Borg further states,

> "...the teacher usually receives little or no training in education as a science, does not look to science as a means of solving educational problems, and does not identify himself with the educational scientist. This lack of identification intensifies the threat of research to the teacher, and many teachers use such defenses as ridiculing research and refusing to admit that research findings have any application to teaching." (1,p.315).

Corey feels that one circumstance that assists in explaining why the scientific method of problem solving did not become an important part of educational practice was its adoption not by the practitioners but by the professional students of education. University professors and staff members of research bureaus were the ones who spoke and wrote, and who still speak and write

about the science of education (4, p.3). What they imply in their writings is that research is not an activity in which amateurs (practitioners) can engage. However, the fact does exist that they are the ones who trained the amateurs (practitioners). The idea still exists that only the educational researcher with at least a doctoral degree is the one who should be conducting the scientific study of the problems that practitioners must face.

Unfortunately some of the research is conducted in a fashion so divorced from the realities of the clasroom that practical application is utterly impossible. As a result, the largest percentage of educators ignore the scientific method and adopt a casual or "common sense" approach to the solution of educational problems. Gephart states that typically less than one-half of one per cent of our annual education budget is spent for educational research (6, p.2).

David Ausubel in his article "The Nature of Education Research" describes three non-research approaches to improvement of pedagogy. The first method employed by many teachers is to examine their own practices and abstract what seems to them the basis for their "success", and to advocate that these practices be universally emulated. Another less rational approach relies on the authority of presumed expert opinion. After many years of experience in the profession, some educators think that they are entitled to make dogmatic pronouncements concerning pedagogic method because of the wisdom which extended experience in the public school classroom or status at the university level has conferred. The third approach is based more on logic than on experience. Method A is inferred to be superior to Method B because it is more compatible (a) with certain theoretical considerations that have logical or face validity or (b) with indirectly related empirical findings (6, p.8.). The weaknesses of these three common sense approaches to the solution of educational problems are rather evident.

One attempt to resolve the morass of confusion that exists and to bridge the gap between research knowledge and application is "action research". According to Corey, "The expression action research and the operations it implies came from at least two somewhat independent sources. One is the activities and writings of Collier during the period (1933-45) when he was Commissioner of Indian Affairs. The second source is Lewin and his students many of whom have attempted to study human relations scientifically and to improve the quality of human relations as a consequence of their inquireies" (4, p.7). Collier used the expression action research and was convinced that since administrators and teachers must apply the findings of research that they themselves must participate creatively in the research.

Borg classifies research under three headings: basic research, applied research, and action research. He differentiates the three types by the degree to which the type emphasizes precision and control as contrasted with reality (1, p.16). He further states:

> "The research worker in education is faced with a difficulty dilema. If he attempts to maintain close control on the research situation in order to obtain scientific precision, he usually must alter the conditions so greatly that there is very little similarity between the research situation and the related situation in the public schools. On the other hand if he strives for reality in his research so that his findings may have direct application to the public schools, he must usually sacrifice much of his scientific control. Even at its most precise level, research in education cannot match the precision and control possible in the physical science laboratory."

The definitions applied to action research are varied but tend to stress the same points. Borg states, "Action research involves the application of the steps of the scientific method to classroom problems. ...action research usually employs the highest level of reality and the least amount of control and precision of the three types (1, p.20). He further concludes that action research is in many ways similar to applied research but differs principally in those aspects of research design that

permit the generalizability of applied research results. However, as action research projects become more extensive they become more similar to applied research. The emphasis in action research is not on obtaining generalizable scientific knowledge about educational problems, but on obtaining specific knowledge concerning the subjects involved in the study. It seems then that the principle advantage in action research is that it provides the practitioner with an objective, systematic technique of problem solving that is far superior to the casual or common sense approach that is presently used. Carter V. Good in his book, Introduction to Educational Research (7, p.322), states:

> "Action research (or cooperative research or cooperative action research), as comparatively new terminology has appeared in the literature since the midpoint of the present century. ...the term operational research sometimes has appeared as a synonym for action research. Such research in the schools is an attempt to provide investigational procedures for study and solution of school problems in relation to the total situation, and is a program conducted by teachers as part of their teaching activity, usually with the advice and cooperation of research specialists."

Good goes on to say that the action-research movement developed as a result of the partial failure of educational research to play a significant role in changing practice. The major contribution of action research or cooperative research is the in-service training and stimulation of teachers rather than as a basic research methodology. One final definition as stated by Corey is "...research undertaken by practitioners in order that they may improve their practices" (4, p.21).

All of the preceding definitions stress certain basic ingredients that good action research possesses: (1) the prime ingredient seems to be teacher participation with the hope that this will stimulate them to want to change their methods, (2) the research is conducted in the classroom or school setting with live subjects and is directly related to a felt need of the teacher, (3) the research is designed to incorporate as much of the scientific method

of conducting research without jeopardizing the willingness of teachers to participate, and (4) the generalizability of the results is not of concern to the researchers.

The major criticism concerning action research seems to be in the approach which although resembles the scientific method certainly doesn't rigorously follow the traditional method. This can be best shown by an examination of the steps as described by Borg (1, p.315-323).

1. The teacher or group of teachers identify a problem they percieve to be critical in their everyday teaching activity.
2. A review of the literature is undertaken. The type of exhaustive review of primary sources required in formal educational research usually is not practical for the teacher.
3. The next step is for the teacher to redefine his general problem, as established in step 1, into a more specific testable hypothesis setting. If the hypothesis is fuzzy so will be the results.
4. The research procedures are next established. These do not have to be adhered to rigorously if the teacher gains new insight into the project that may lead to changes that offer a better possibility of solving the teacher's problems.
5. The final step involves data analysis which rarely calls for complex or sophisticated procedures. In addition to whatever if any objective data are available, the teacher should be encouraged to make a subjective analysis of the project thus assisting in applying what has been learned to future teaching.

These steps are further emphasized when compared to formal research and the common sense approach. The following chart makes such a comparison.

DIFFERENCES AMONG FORMAL EDUCATIONAL RESEARCH, ACTION RESEARCH, AND THE CASUAL APPROACH TO PROBLEM SOLVING IN EDUCATION

(1)

Area	Formal Educational Research	Action Research	Casual or "Common Sense" Approach
1. Training required	Extensive training in measurement, statistics, and research methods is needed. Much of the scientific research done in education is weak because of deficiencies of the researchers in these areas.	Only a limited training in statistics and research methods is needed because rigorous design and analysis are not usually necessary. More training in educational measurement is needed than most teachers possess. Even if the teacher's research skills are low, good action research can be carried out with the aid of a consultant.	No training is needed. This is the same method used since prehistoric times to achieve faulty solutions to ill defined problems.
2. Goals	To obtain knowledge that will be generalizable to a broad population and to develop and test educational theories.	To obtain knowledge that can be applied directly to the local classroom situation, and to give the participating teachers in-service training.	To make changes in the current procedure that appear likely to improve the situation.
3. Locating the research problem	Problems indentified by a wide range of methods. Research worker must understand the problem, but is usually not directly involved in it.	Problems identified in the school situation that are causing the research worker trouble or are interfering with the efficiency of his teaching.	Problems identified in same manner as action research.
4. Hypotheses	Highly specific hypothesis are developed that employ operational definitions that are testable.	A specific statement of the problem usually serves as the hypothesis. Ideally, action research hypothesis should approach rigor of formal research.	Specific hypothesis not established. Participants rarely progress beyond a fuzzy and ill-defined concept concerning the nature of the problem.

Area	Formal Educational Research	Action Research	Casual or "Common Sense" Approach
5. Review of the literature	An extensive review of primary source material is usually carried out, giving the research worker a thorough understanding of the current state of knowledge in the research area. This enables him to build upon the knowledge accumulated by others.	A review of available secondary sources gives the teacher a general understanding of the area to be studied. Exhaustive review of primary sources is almost never done.	Usually no review of the literature is carried out, although one or two secondary sources may be checked.
6. Sampling	Research worker attempts to obtain a random or otherwise unbiased sample of the population being studied, but is usually not completely successful.	Pupils available in the class of the teacher or teachers doing the research are used as subjects.	Some casual observation of pupil behavior may be made by the teacher after the change decided upon has been in effect for a while.
7. Experimental Design	Design is carefully planned in detail prior to start of the study and adhered to as closely as possible. Major attention is given to maintaining comparable conditions and reducing error and bias. Control of extraneous variables is important.	Procedures planned in general terms prior to start of study. Changes made during the study if they seem likely to improve the teaching situation. Little attention is paid to control of the experimental conditions or reduction of error. Because participating teachers are ego-involved in the research situation, bias is usually present.	If classroom testing of the decision is attempted, procedures are planned only in the most general terms. No attempt is made to establish common definitions or procedures among participating teachers.
8. Measurement	An effort is made to obtain the most valid measures available. A thorough evaluation of available measures and a trial of these measures usually precedes their use in the research.	Less rigorous evaluation of measures that in scientific research. Participants often lack training in the use and evaluation of educational measures, but can do a satisfactory job with help of a consultant.	Usually no evaluation is made except for the casual observations of the teachers participating. The teachers' opinion as to whether the new procedure is an improvement or not depends almost

Area	Formal Educational Research	Action Research	Casual or "Common Sense" Approach
8. Cont'd			entirely on whether the teacher approves the change.
9. Analysis of data	Complex analysis often called for. Inasmuch as generalizability of results is a goal, statistical significance is usually emphasized.	Simple analysis procedures usually are sufficient. Practical significance rather than statistical significance is emphasized. Subjective opinion of participating teachers is often weighed heavily.	Subjective opinion of the participants is usually the only procedure used. No attempt made at objective analysis.
10. Application of results	Results are generalizable, but many useful findings are not applied in educational practice. Differences in training and experience between research workers and teachers generate a serious communication problem.	Findings are applied immediately to the classes of participating teachers and often lead to permanent improvement. Application of results beyond the participating teachers is usually slight.	Decisions reached are applied immediately in classes of participating teachers. Even if the decision leads to improvement, it is often changed later because no evidence is available to support its continuance. This approach leads to educational fads and "change for the sake of change."

Taken from:

Borg, Walter R., Educational Research: An Introduction, David McKay Co., Inc., New York, 1963, pp. 319-322.

Borg lists some mistakes often made in action research (1, p. 323).

1. The teacher selects trivial problems to be attacked through action research.
2. The project is started before the teachers involved have thought through and specifically defined their problem.
3. The teacher fails to study and evaluate important secondary sources pertinent to the problem.
4. The teacher fails to obtain the assistance of a consultant or seeks assistance after irreparable blunders have already been made in the conduct of the project.

In summary it has been the purpose of this paper to describe briefly the evolution of action research as a present day practice for educators to solve some of their pressing problems. It is a step beyond the usual "common sense" committee approach which rarely achieves anything except to waste time and create a false sense of accomplishment. It is certainly a giant step below traditional scientific research.

However, if it assists in bridging the gap between knowledge and application then the procedure should be nourished. Bernard R. Corman states in his "Action Research: A Teaching or a Research Method?" Any movement which will encourage a turn toward problem solving in teacher education needs to be nourished", (5, p. 345).

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